Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

NOTES FROM PACIFIC COAST OBSERVATORIES.

Orbits of the Binary Stars 55 *Tauri*, π^2 *Ursæ Minoris*, and 4 *Aquarii*.

The orbit of 55 *Tauri* (= OΣ 79) was first computed by Hussey in 1901, but at that time there was still great uncertainty as to the form of the apparent ellipse, and the one on which his elements were based will not fit the more recent observations. The range of uncertainty is now much smaller, and it is hoped that the following elements will prove to be approximately correct. They are:—

True Elements.	Apparent Orbit.
$P = 96.3$ years	Length of major axis = $0''.92$
$T = 1898.0$	Length of minor axis = $0''.51$
$e = 0.65$	Distance of star from center = $0''.23$
$a = 0.54$	Position-angle of major axis = $48^\circ.0$
$☊ = 77^\circ.3$	Position-angle of periastron = $205^\circ.8$
$i = \pm 55.3$	
$\omega = 114.35$	
Angles increasing.	

No orbit has heretofore been published of the binary star π^2 *Ursæ Minoris* (= Σ 1989), although the angular motion since discovery in 1832 exceeds 270°. This is mainly due to the uncertainty attaching to the early observations. The following elements give satisfactory residuals for these observations, as well as for the more reliable of my recent measures made when the angular separation of the two components was less than $0''.10$. Nevertheless the results must be regarded as subject to a large degree of uncertainty. They are:—

True Elements.	Apparent Orbit.
$P = 115$ years	Length of major axis $= 0''.82$
$T = 1902.7$	Length of minor axis $= 0''.24$
$e = 0.80$	Distance of star from center $= 0''.33$
$a = 0''.42$	Position-angle of major axis $= 11^\circ.45$
☊ $= 16^\circ.3$	Position-angle of periastron $= 189^\circ.2$
$i = \pm 62.25$	
$\omega = 165.0$	
Angles decreasing.	

The following orbit of 4 *Aquarii* (= Σ 2729) was computed in 1905, because of the very large residuals resulting from the comparison of my measures with SEE's elements. They were not published at that time, however, because of the uncertainty introduced by the discordance of the early measures. Since then LEWIS has published an orbit with nearly the same period as that here given, but with different geometric elements. For this reason it seems desirable to place my results on record, especially as they represent the measures of the past four years within the limit of error of measurement. They are:—

True Elements.	Apparent Orbit.
$P = 135.6$ years	Length of major axis $= 1''.21$
$T = 1899.8$	Length of minor axis $= 0''.57$
$e = 0.35$	Distance of star from center $= 0''.12$
$a = 0''.64$	Position-angle of major axis $= 165^\circ.4$
☊ $= 164^\circ.8$	Position-angle of periastron $= 221^\circ.2$
$i = \pm 62.3$	
$\omega = 73.3$	
Angles increasing.	

More detailed accounts of these investigations will be published later.

R. G. AITKEN.

March, 1909.

THE PERIOD OF *β CANIS MAJORIS.*

An extensive series of spectrograms of *β Canis Majoris* has been obtained. This star was announced as a spectroscopic binary a few months ago. The period of velocity variation is very close to six hours. This star, therefore, has a shorter